

COWPOX VIRUS

| ANIMAL GROUP AFFECTED | TRANSMISSION | CLINICAL SIGNS | FATAL DISEASE ? | TREATMENT | PREVENTION & CONTROL |
|---|----------------|---|--|---|--|
| Macaques Marmosets Elephants Rhinoceroses Zebras Okapis Llamas Alpacas (Cats) Hosts: wild rats, voles and mice | Direct contact | In nonhuman primates: vesicopapules, scabs, facial swellings, gingivitis In exotic herbivores: pustules and swellings in skin and gingiva, pox lesions on vulva, penis, trunk, anal mucosa, gingiva and tongue, detached sole horn, stillbirth | Rare in humans and non-human primates Depends on severity of disease and secondary infections Can be severe in young animals | Normally self-limiting disease. Treat secondary (bacterial) infection Antibiotics (secondary bacterial infection), supportive measures | <i>Eradicate wild rodents, especially rats</i> Elephants and rhinos should be vaccinated (MVA modified vaccinia virus Ankara) |

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| Fact sheet compiled by Marno Wolters, Artis Zoo Amsterdam & Hester van Bolhuis, AAP Sanctuary for Exotic Animals, Almere the Netherlands | Last update: November 2008 |
| Fact sheet reviewed by Manfred Brack, Byron Martina | |
| Susceptible animal groups Non-human primates, cats, cows, exotic herbivores (giraffes, okapis, elephants, rhinos, llamas, alpacas, edentates) and wild/exotic cats Endemic amongst rats, voles and mice | |
| Causative organism Cowpox virus (genus Orthopox) | |
| Zoonotic potential Can spread from rats, mice and other infected animals to humans | |
| Distribution Presumed to be widely spread amongst wild rodents in Western Europe | |
| Transmission Direct contact, biting | |
| Incubation period NHP: 1 week Herbivores (elephants): 15-22 days | |
| Clinical symptoms NHP: facial swellings, gingivitis, vesicopapules, scabs, secondary infections (gangrenous inflammation of the subcutis, haemorrhagic enteritis). Herbivores: pustules and swellings in skin and gingiva, pox lesions on penis, vulva, trunk, anal mucosa, eyelids, lips, tongue, gingiva; stillbirth, fever, arthritis. Secondary infections. | |
| Post-mortem findings Intracytoplasmatic inclusion bodies in epithelium cells of the skin and affected tissues | |
| Diagnosis Histology, serology (EIA, Int. EIA, FACS, Int. FACS), PCR, TEM | |
| Material required for laboratory analysis Tissue samples, serum, nose swabs, swabs of mucous membrane of the cheek (NHP) | |



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| Relevant diagnostic laboratories Institute of Virology, Erasmus Medical Centre, Rotterdam, the Netherlands German Primate Center, Göttingen, Germany, dep. Infektionspathologie |
| Treatment In humans and non-human primates: self-limiting. Use antibiotics and NSAIDs to treat secondary infections In herbivores: can be life-threatening due to massive cycles of virus development. Use antibiotics, NSAIDs and other supportive measures |
| Prevention and control in zoos Control wild rodents (pest control). Separate infected animals to stop the disease spreading |
| Suggested disinfectant for housing facilities |
| Notification Health authorities should be informed |
| Guarantees required under EU Legislation |
| Guarantees required by EAZA Zoos |
| Measures required under the Animal Disease Surveillance Plan |
| Measures required for introducing animals from non-approved sources |
| Measures to be taken in case of disease outbreak or positive laboratory findings |
| Conditions for restoring disease-free status after an outbreak No new cases 4 weeks after the last infection |
| Contacts for further information Prof. dr. A.D.M.E. Osterhaus, Prof. dr. G. M. Dorrestein, Dr. B. Martina |
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